

AMENDMENTS TO THE CLAIMS

1. (Cancelled)
2. (Currently amended) A programmable controller according to claim 7, further comprising changing means for changing the prescribed constant interval of generating an interruption trigger by the interruption trigger generating means.
3. (Currently amended) A programmable controller according to claim 7, further comprising changing means for changing the second prescribed constant amount of time duration of executing the peripheral service process executed by the interruption process means.
4. (Previously presented) A programmable controller according to claim 7, further comprising means for prohibiting an external interruption during the execution of the user program process in response to reading a prescribed interruption mask command, and canceling the prohibition of the external interruption during the execution of the user program process in response to reading a prescribed interruption mask cancel command.
5. (Previously presented) A programmable controller according to claim 7, wherein the prescribed interval is determined by the sum of the time duration of executing the previous peripheral service process and a prescribed time period.
6. (Cancelled)
7. (Currently amended) A programmable controller comprising:
  - an I/O unit for input and output with various pieces of equipment that are to be controlled;
  - an I/O memory for storing I/O data corresponding to the I/O unit;
  - a user program memory for storing user program corresponding to user defined control requirements;

a system program memory for storing various system programs in order to realize functions as a PLC (lower level programmable controller);

a microprocessor for executing system program stored in the system program memory; and

an interruption trigger generating means for generating an interruption trigger at a prescribed constant interval;

said system program at least comprising;

a user program execution process for executing user programs stored in the user program memory;

an I/O refresh process for refreshing I/O data between the I/O memory and the I/O unit; and

a peripheral service process comprising data communication with an upper-level computer, communication with special I/O or remote I/O, and data relay process in a factory automation (FA) network, wherein:

the user program execution process and I/O refresh process are executed by a normal process of the microprocessor for a first prescribed constant amount of time, and the peripheral service process is executed for a second prescribed constant amount of time according to an interruption process of the microprocessor every time an interruption trigger is generated by the interruption trigger generating means, and wherein the first prescribed constant amount of time and the prescribed constant second period of time are unequal in duration.

8. (Currently amended) A programmable controller comprising:

an I/O unit for input and output with various pieces of equipment that are to be controlled;

an I/O memory for storing I/O data corresponding to the I/O unit;

a user program memory for storing user program corresponding to user defined control requirements;

a system program memory for storing various system programs in order to realize functions as a PLC (lower level programmable controller);

a microprocessor for executing a system program stored in the system program memory;

an interruption trigger generating means for generating an interruption trigger at a prescribed constant interval; and

a mode setting means for setting an operation mode to one of a first mode and a second mode;

the system program comprising:

a user program execution process for executing user programs stored in the user program memory;

an I/O refresh process for refreshing I/O data between the I/O memory and the I/O unit; and

a peripheral service process comprising data communication with an upper-level computer, communication with special I/O or remote I/O, and data relay process in a FA (factory automation) network, wherein;

in the first mode, the user program process, I/O refresh process, and peripheral service process are cyclically executed by the microprocessor according to a normal procedure; and

in the second mode, the user program process and I/O refresh process are executed by the microprocessor according to the normal procedure for a first prescribed constant amount of time, and the peripheral service process is cyclically executed at prescribed constant intervals for a second prescribed constant amount of time according to an interruption process of the microprocessor every time an interruption trigger is generated by interruption trigger generating means, and wherein the first prescribed amount of time and the second prescribed amount of time are unequal in duration.